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FORESHORE FREEWAY COMPLETION PROJECT
ARCHAEOLOGICAL ASSESSMENT OF POTENTIAL HERITAGE IMPACTS

Prepared for
Foreshore Project Managers
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EXECUTIVE SUMMARY

Construction of piles and spread footings in phases 1-3 of the Foreshore Freeway Completion Project may impact buried archaeological sites and human burials. The findings of this study by ACO to evaluate potential impacts indicate that Phases 1 and 3 have a moderate chance of impacting shipwreck sites under the foreshore fill. These sites cannot be identified before construction begins because of depth of fill and water table considerations. Potential impacts are considered un-mitigateable. Phase 2 may impact old shorelines of Table Bay, structural remains, shipwrecks, possible burials and other archaeological sites. Trial excavations are proposed to evaluate sub-surface material and mitigate through removal or avoidance as required.

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1 Introduction

The Archaeology Contracts Office of the University of Cape Town was commissioned by Foreshore Project Managers to undertake an initial archaeological assessment of land on the Cape Town Foreshore that will be affected by completion of the elevated foreshore freeways.

Completion of the foreshore freeways will involve reusing previously constructed capped piled footings (built for supports for the unfinished freeways) as well as construction of new piled footings and spread footings where required. The construction method means that potential impacts to underground archaeology would be localised in the immediate area of the piles.

In terms of the extent, locality and method of the envisaged work ACO agreed conduct the study on phases 1-3 of the Foreshore Freeway Completion Project (Figure 1).

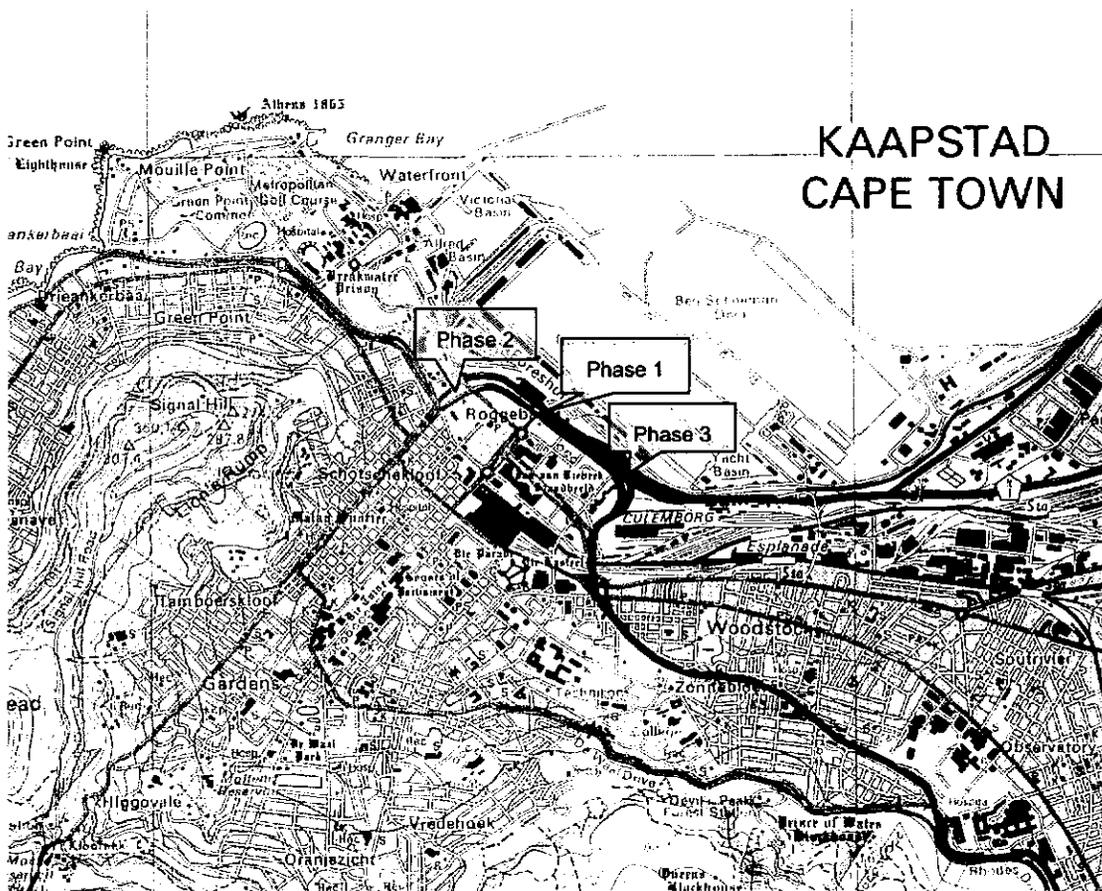


Figure 1 The Foreshore freeway completion phases 1- 3.

1.1 Terms of reference:

- Review the studies done by Neptune research (and others) with respect to the freeway alignment.
- Obtain and overlay early plans and diagrams of the affected area with a view to establishing potential impacts on known areas of historical significance.
- Comment on the possibility of impacting un-marked burial grounds and indicate the procedure required for exhumation.
- Discuss the need for, and location of any trial excavations that may be required.
- Indicate any further mechanisms required for mitigation of impacts to archaeological remains.
- Submit copies of the report to your organisation and SAHRA.

2 Known archaeological sensitivity of the foreshore area

2.1 Previous studies

In 1992 Durden completed an archaeological assessment of the maritime potential of Table Bay in which he plotted the known localities of shipwrecks according to archival records in relation to the modern layout of Table Bay.¹ This work together with the SAHRA (South African Heritage Resources Agency) shipwreck database has formed the basis of information used in assessing impacts to heritage resources on the Foreshore. Based on Durden's research and primary archival information Hart² completed an assessment of the Archaeology of the Culemborg area (relevant to Phase 3 of the freeway completion). More recently Mavrodinov and Sharfman³ and Cox⁴ have produced studies that are directly applicable to the Freeway completion projects. The work contained in their reports is well grounded, the overlay maps have been verified through fieldwork to be reasonably accurate. The archival research by Cox accurately predicted the archaeological impacts that have been experienced at the Convention Center and Roggebaai Canal. In consideration of the work already done, it is not necessary to duplicate their findings. This report has used the findings of previous work, but also contains research on particular aspects of the Freeway Completion Project that are considered to be potentially sensitive in terms of heritage impacts.

3 Archaeological potential of the foreshore

The various projects completed to date have shown that there are a number of categories of archaeological sites that could occur in the Foreshore area.

¹ Durden T. 1992. An assessment of the Maritime archaeological potential of Table Bay 1806-1900. Unpublished BA Hons dissertation. UCT.

² Hart. T. 1998 Initial heritage impact assessment of Culemborg, Cape Town. Prepared for Crowther Campbell & Associates. Unpublished report. ACO.

³ Mavrodinov and Sharfman. 2000. Maritime archaeological impact assessment, Foreshore. Neptune Research. Unpublished Report.

⁴ Cox G. Archaeological Impact Assessment, Cape Town International Convention Center. Unpublished report.

3.1 Prehistoric archaeological sites

By about 3000 years ago the Holocene marine transgression stabilised at current levels. Late Stone Age people (ancestors of the San) spent much of their time at the coast where they were able to exploit the easily accessible marine shellfish and other marine foods that could be collected from the shoreline. As a result, prehistoric archaeological sites are a common feature of the South African coast. Early European travelers and the first settlers encountered groups of transhumant herders on the shores of Table Bay. The majority of early archaeological sites that no-doubt existed on the shore of Table Bay have virtually all been destroyed by development activities. From time to time evidence of prehistoric people on the coast of Table Bay has come to light. Avery found remains of a prehistoric shell midden while excavating the Golden Acre site in the 1970s.⁵ Halkett found 3000 year old stone artefacts in sands under the Kat Balcony of the Castle of the Cape of Good Hope⁶ while recently the ACO team recovered four prehistoric skeletons (over 1000 years old) under the foundations of a 19th century building in Cobern Street, Greenpoint.⁷

3.2 Historic burials

During the 18th and early 19th centuries the eastern extent of Cape Town were used as burial grounds. There were formalised burial grounds for members of the Dutch Reformed Church of Somerset Road in the 18th century. Other religious groups established burial grounds in the area after the British took over the Cape in 1806. Most of the formal burial grounds were exhumed at the turn of the 19th-20th centuries and the remains removed to Maitland. The biggest potential problem are the unmarked burial grounds of the poor, especially slaves who until 1818 had no formal burial grounds of their own and were laid to rest on any available land. This problem was especially severe during the smallpox epidemics of the 18th and 19th centuries when the mortality rates were so high that bodies were disposed of hurriedly on the beaches and dunes creating a health hazard.⁸ Archaeologists have uncovered remains of bodies from 3 unmarked graveyards within the city limits.

3.3 Shoreline archaeology

During the 18th and 19th centuries the shoreline of Table Bay served as the landing area for the city. Several wooden jetties were built out into the bay operating until the Alfred Basin (Cape Town's first true harbour) was completed in 1862. Along the shoreline were various buildings ranging from coal stores, jetties, small fishing harbours, whaling stations and income housing. The shallow water of the bay also served as a place for the disposal of domestic waste, sewerage and offal from the whaling stations as well as refuse from ships anchored in the bay. The Table Bay shore in the 19th century was a somewhat polluted and industrial environment.

⁵ Avery, G. Pers. comm.

⁶ Halkett, D.J. Pers. comm.

⁷ Cox G. Sealy, J. Schire C and Morris A. 2001. Stable carbon and nitrogen analysis of the underclass at colonial Cape of Good Hope in the 18th and 19th centuries. *World Archaeology* Vol 33(1):73-79.

⁸ Laidler, PW. and Gelfand, M. 1975. *South Africa, its medical history.* Cape Town: Struik.

3.4 Shipwrecks

Shipwrecks were a common occurrence along the shoreline of Table Bay until the construction of the Alfred Basin and Breakwater between 1860 and 1862. It is estimated that 300 ships ran aground or sunk in the bay between the 17th

and mid-19th centuries, mainly as a result of severe northwesterly winter gales.

Any salvageable items were auctioned off, and those parts of the hulks that were accessible above water, carted away for firewood (Figure 2).



Figure 2 Painting by Thomas Bains (1842) - wrecks on the shores of Table Bay.

3.5 Land reclamation

The shoreline of Table Bay has been subject to several land reclamations, the first of which began in the mid-19th century involving creating the Alfred Basin, a small fishing harbour (lower Bree Street) and the conversion of several areas of shoreline into sea walls. The most significant event was the building of Duncan Dock from 1935 onwards. This resulted in seabed deposits dredged from the harbour area being used to claim a vast amount of land – the Foreshore. Under the Foreshore are the remains of ships driven onto the Table Bay Shore, the small fishing harbours, seawalls, several jetties, the random block mole built in 1933 and possibly the remains of several Dutch East India Company Gun Emplacements.

Shipwreck timbers and maritime objects found by construction workers at the foreshore power station site, Cape Town Grain Elevator and Civic Center attest to the presence of wrecks buried along the old Table Bay shoreline which now lies under the reclaimed land of the Cape Town Foreshore. The North Warf was discovered by archaeologists in 1991 close to the Imperial Cold Storage building. The Chavonnes Battery⁹ was found in 1999 in the Waterfront having been buried under reclaimed land for 140 years. Despite these finds, no maritime archaeologist has ever had the opportunity to study any Foreshore shipwreck material in detail in an *in situ* context before the find sites were impacted by development activities.

3.6 Sensitivity zones

In summary the most sensitive areas of the Foreshore are:

⁹ Hart, T. 2001. Chavonnes Battery Conservation Plan. ACO Unpublished report.

- The line of the old Table Bay shore and the areas that were above the high tide mark that may contain unmarked graves, historic or prehistoric middens and structures.
- The shallow waters of Table Bay, especially the area that used to be the intertidal zone down to a depth of 6m. This is where the majority of ships would have beached during storms. Similarly the remains of early jetties that extended out from the shore to deeper water may be preserved under reclaimed land.

Less sensitive are:

- The most seaward (northerly) areas of the Foreshore where there were no shorelines or reefs, which could endanger shipping. Although some vessels probably sunk in deeper water, the density of wrecks is lower which means that the likelihood of impacting one during development activities is less.

4 Foreshore Freeway completion - heritage impacts

4.1 Construction method

The existing elevated Foreshore Freeways (Figure 1) have been built across mainly the most seaward portions of reclaimed land but cross over the original Table Bay shoreline in limited areas in Greenpoint and Culemborg. The supports for the freeways are built on massed piles, which are driven directly through the ground surface until hard bedrock is attained. No bulk excavation work will take place apart from exposure of the previously capped piles. The construction method to be employed for extending the Foreshore freeways will be similar. Capped piles (positioned when the existing elevated freeway was built) already exist in certain areas. These will be re-used. New piles and footings will be constructed where required.

In terms of limiting impacts to heritage resources that may be buried under the Foreshore, piling is the most desirable construction option as it requires virtually no deep excavation and has a very localised impact on critical areas – in this instance mainly the buried Table Bay seabed. The chances of “hitting” a shipwreck are therefore rather less than if the work was done by large-scale excavation.

4.2 Potential impacts to heritage resources

4.2.1 Phase 1

Phase 1 passes over what used to be the deeper waters of Table Bay. It is a certainty that the Random Block Mole will be encountered and a moderate chance that shipwrecks will be impacted.

4.2.1.1 Random Block Mole

Based on plans provided by the client, piling operations in this area will potentially impact the Random Block Mole. This feature was encountered in excavations for the nearby Convention Center. Built to provide a temporary harbour in 1926, the concrete block and rubble structure extended from the shoreline (close to the end of Long Street) out to sea and towards South Arm creating a large anchorage. It was a failure as a safe harbour and was partially demolished and backfilled under reclaimed land when Duncan Dock was built a few years later. The 6 ton concrete blocks that the mole was constructed from will prove a hindrance to piling operations. Unless the mole can be avoided, it will be necessary to excavate and remove the concrete blocks, as has been the case with Convention Center.

Mitigation

- *Legal:* The Random block mole is protected under the 60 year clause of the SAHRA act 25 of 1999. A permit will need to be obtained from South African Heritage Resources Agency for its excavation and demolition.
- Excavation of the Random Block Mole should be subject to periodic monitoring by an archaeologist so that it is photographically recorded and any maritime artefacts are collected.

4.2.1.2 Shipwrecks

Phase 1 will cross over landfill that was once the deeper waters of Table Bay. There is a possibility that piling will impact shipwrecks on the sea bed levels.

Mitigation

- *Legal:* Shipwrecks and their contents are protected by the SAHRA act 25 of 1999. They may not be disturbed or excavated without a permit. SAHRA¹⁰ has indicated that unless a shipwreck has been specifically identified in the development area, no permit is required.
- Unfortunately the location information that is available with respect to early shipwrecks is unreliable. Furthermore there are no remote sensing methods that would enable us to confidently determine the presence or absence of such material prior to the start of construction work. This area of the Foreshore poses practical difficulties; it will not be possible to conduct trial excavations through 12-15m of fill into the water table to the old seabed, where the possible remains may lie without enormous expense. No mitigation is suggested on these grounds. Monitoring of the piling operation is also unlikely to produce any useful information.

4.2.2 Phase 2

According to plans provided by the client, this phase of the project will see the Freeway Completion link with the existing section between Hans Strydom and

¹⁰ John Gribble. SAHRA maritime archaeologist. Pers Comm

Coen Steytler Avenues. An examination of maps dating between 1862 and the present day has shown that of phase 2 has the highest likelihood of impacting historical material. The area between Coen Steytler and Hans Strydom Avenues includes the old shoreline of Table Bay as well as land, which was used for various purposes during the 19th century. Figure 3-8 are a series of maps showing the area of phase 2 over the last 140 years.

4.2.2.1 Burials

The Snow survey of 1862 shows that this area was the edge of Cape Town consisting of patches of open ground and a few developed lots of land. Immediately inland was the old Somerset Hospital (since demolished). The outskirts of the city during the 18th and early 19th centuries were used as informal burial grounds. Workers building the hospital in 1816 complained about finding the remains of shallowly buried small pox victims while digging the hospital foundations.¹¹ There are reports of skeletal remains being uncovered during building operations at the nearby Transnet Vehicle depot, while recently more than 70 individuals were exhumed from an unmarked burial ground near Gallows Hill.¹² There is a definite possibility that human burials may exist in the portions of land that will be affected by Phase 2 of the Freeway completion.

Mitigation

- *Legal:* Human remains are specifically protected by the SAHRA act. Exhumation requires a public consultation process and advertisement for a period of 60 days prior to issuing of an exhumation permit. There is special dispensation for issuing of rapid exhumation permits for unmarked burials discovered during the course of development activity.
- Trial excavations should be done by an archaeologist in the areas where new spread footings or piled footings are planned. The archaeologist could apply for an emergency permit to exhume human skeletal material if any burials are found.

4.2.2.2 Structural remains

The alignment of Phase 2 passes across two previous historic shorelines, which may have had sea walls. In addition it is expected that the foundations of previous dwellings and other industrial structures may lie in the area. The early maps indicate that no jetties existed in the area.

Mitigation

- *Legal:* Structural remains over 60 years old are protected by the SAHRA act 25 of 1999. A permit must be obtained for their demolition or alteration.

¹¹ Laidler, P.W and Gelfand, H. 1975. South Africa, Its medical history. Cape Town: Struik.

¹² Halkett, D & Hart, T. 2000 A report on the exhumation of human remains from an historic cemetery at the Marina Residential development, V&A Waterfront. Prepared for V&A Waterfront (Pty) Ltd.

- Trial excavations must be conducted by an archaeologist according to the layout of any new spread footings or massed pile footings. Foundations should be recorded, photographed and a permit obtained for their demolition if deemed acceptable by SAHRA. Finds of exceptional significance may require relocation of footings.

4.2.2.3 Shipwrecks

Remains of ship's timbers and maritime artefacts may exist on the old beach levels as phase 2 covers what would have been Table Bay beach and shallows. Mavrodinov and Sharfman¹³ have encountered ship timbers in similar contexts in the Roggebaai Canal currently under construction.

Mitigation

- *Legal:* Shipwrecks and their contents are protected by the SAHRA act 25 of 1999. They may not be disturbed or excavated without a permit.
- Trial excavations must be conducted by an archaeologist according to the layout of any new spread footings or massed pile footings. Any shipwreck material found must be immediately reported to the SAHRA maritime archaeologist. A specialist maritime archaeologist will need to be identified and appointed to excavate the finds as required by SAHRA. Relocation of footings may also need to be considered.

4.2.3 Phase 3

Phase 3, like phase 1 traverses what used to be the deeper waters of Table Bay.

4.2.3.1 Shipwrecks

There is a moderate possibility that shipwrecks will be impacted during construction of piled footings.

Mitigation

- *Legal:* Shipwrecks and their contents are protected by the SAHRA act 25 of 1999. They may not be disturbed or excavated without a permit.
- Unfortunately the location information that is available with respect to early shipwrecks is unreliable. Furthermore there are no remote sensing methods that would enable us to determine the presence or absence of such material prior to the start of construction work. This area of the Foreshore poses practical difficulties; it will not be possible to conduct trial excavations through 12-15m of fill into the water table to the old seabed, where the possible remains may lie without enormous expense. No mitigation is suggested on these grounds. Monitoring of the piling operation is also unlikely to produce any useful information.

¹³ Mavrodinov, N. Pers Comm.

5 Conclusion

This desk top study has indicated that the potentially most sensitive area in terms of possible impacts to heritage resources lies in the area of the proposed phase 2 freeway completion in Greenpoint. Phases 1 and 3 will cross over what used to be the deeper waters of Table Bay. There is a moderate chance that shipwrecks may be impacted by piling operations, however the practical problems of establishing their presence or absence makes mitigation of possible impacts unfeasible.

6 Recommendations

Phases 1 and 3.

Weekly site visits should be conducted by an archaeologist to monitor the excavation of the existing pile caps. The presence of maritime artefacts in diggings (dredged from the Table Bay seabed in the 1930s) should be reported to the project archaeologist who will collect them for future curation.

Phase 2. An archaeologist should be appointed to conduct trial excavations on the proposed sites of spread footings or piled footings (as set out by the project engineers). The archaeologists should establish the presence of shipwreck material, structural remains, sea walls, burials. In consultation with SAHRA and the client he/she will make a decision to remove/conservate any finds or identify alternate locations for footings. Trial excavations need to be commenced as early as possible in the development process.

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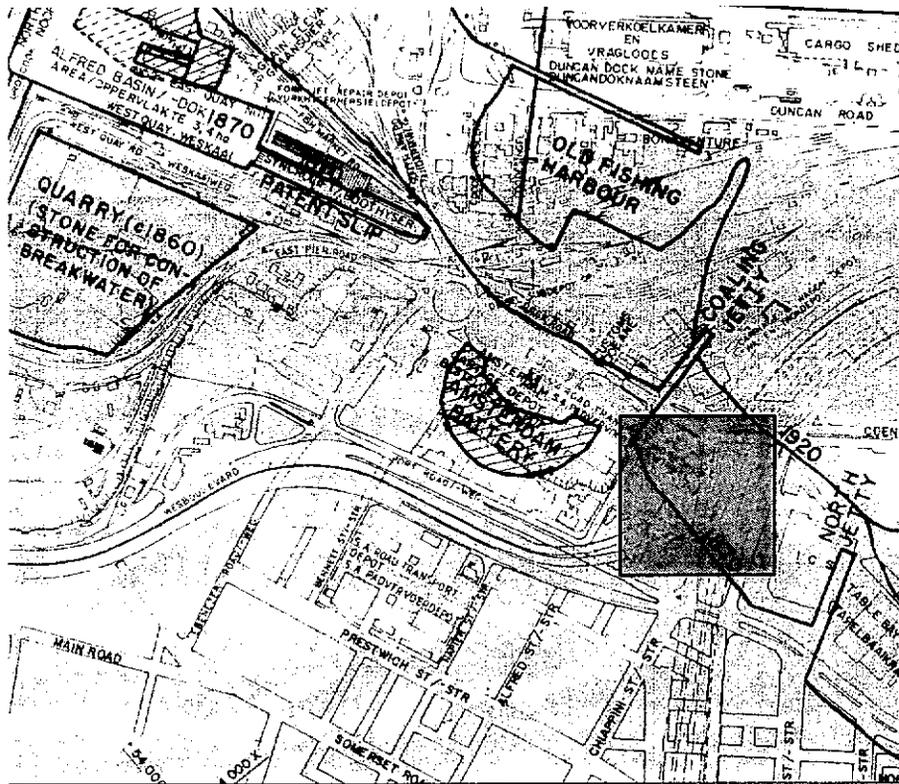


Figure 3 Freeway alignments crossing 1920 and 1870 shorelines (South African Transport Services 1977. Table Bay Harbour Historical Development).

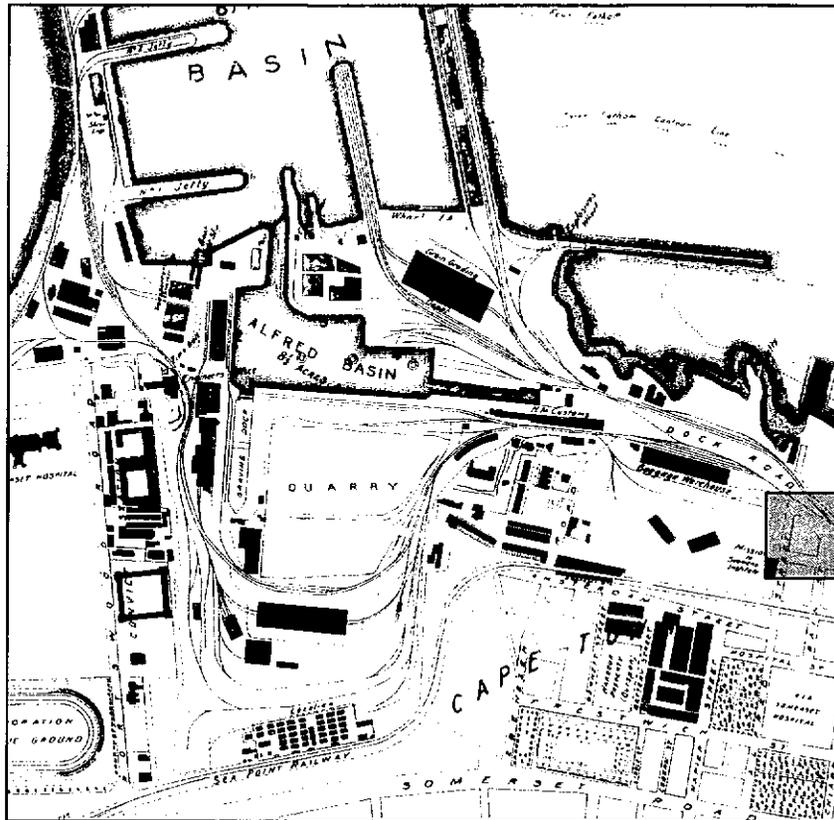


Figure 5 Cape Town City blocks located between Alfred and Chiappini Streets in 1911. These lay roughly under the alignment of the proposed freeway phase 2 (1911 South African Railways, Table Bay Harbour).

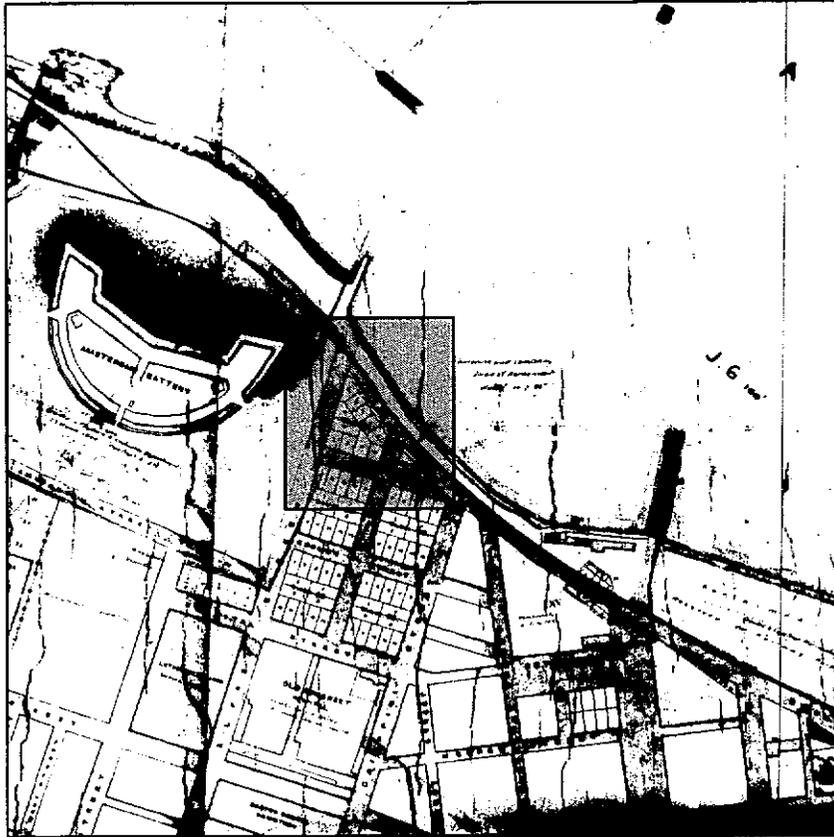


Figure 6 Cape Town City blocks located between Alfred and Chiappini Streets in 1889. These lay roughly under the alignment of the proposed freeway phase 2 (1889 Table Bay Harbour Works, General Plan).

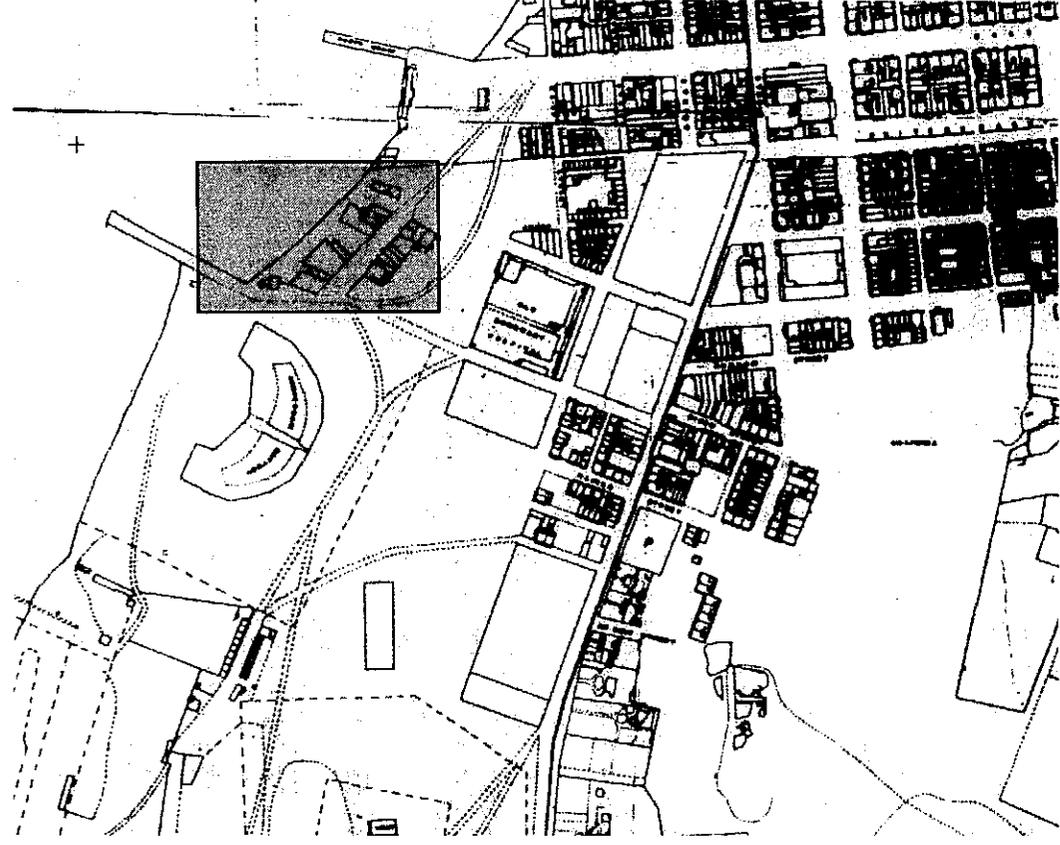


Figure 7 A portion of land with some developed lots situated north of the Old Somerset Hospital. These lay roughly on the alignment of the proposed freeway completion phase 2 (1862 Snow Survey).

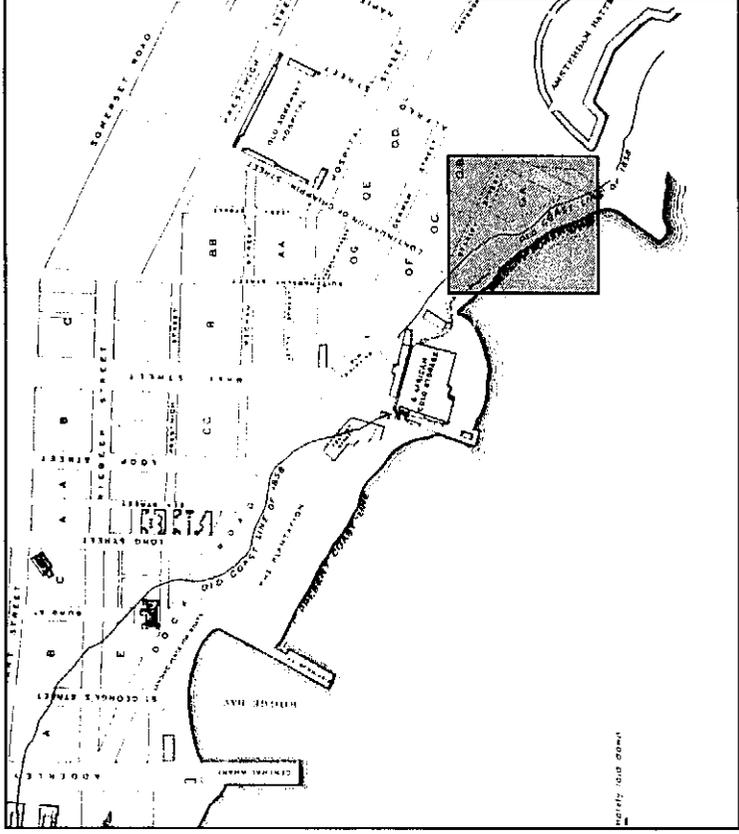


Figure 8 A compilation diagram showing where the proposed freeway (phase 2) crosses the 1856 shoreline (No Date. Captain Vetch's Plan)